

APPENDIX A-10  
RARE PLANT AND ANIMAL SPECIES OF INTEREST AROUND LAKE MURRAY AND THE  
LOWER SALUDA RIVER BROCHURE

## **APPENDIX A-10**

### **RARE PLANT AND ANIMAL SPECIES OF INTEREST AROUND LAKE MURRAY AND THE LOWER SALUDA RIVER**

#### **FINAL**

Wildlife abounds within the ecosystems supported by Lake Murray and the lower Saluda River, and is indeed one of the drawing features to visitors and residents of the area. Among the plants and wildlife that inhabit the lake and river environments are a number of rare, legally protected, or otherwise exemplary species that require special attention. A major focus in managing the lake environment is maintaining the balance between the natural environment that supports these species and human activity and occupation.

SCE&G has developed this brochure to educate the residents and visitors of the Lake about the rare and unique plants and animals occupying the area. By understanding the life requirements and threats to these species, it is our hope that visitors and lake residents will adopt a sense of stewardship for these species and their habitats. Armed with information, such as required habitats and the timing of breeding and nesting behavior, visitors can tailor their activities to minimize disturbance to these species. The public is encouraged to learn and understand the relationships between the rare species and their habitat, and to assume personal responsibility for their conservation. Ultimately, with an informed and conscientious public, these species and their habitats at Lake Murray and lower Saluda River can endure into the future and continue to mark the area as a valued natural resource.

This brochure is also available on the SCE&G website at <http://www.sceg.com/en/my-community/lake-murray/>. Copies can also be picked up at recreational sites, marinas, and parks around Lake Murray.

## **Bald Eagle**

The bald eagle (*Haliaeetus leucocephalus*) is best known as the national bird of the United States of America. The bald eagle was previously listed as a federally endangered species due to population declines attributed to exposure to pesticides, loss of suitable habitat and illegal shooting. Today, the species has recovered to the degree that it was recently removed from the Federal Endangered Species List in July of 2007. The bald eagle continues to receive protection under the South Carolina Nongame and Endangered Species Conservation Act as a state endangered species, as well as federally through the Bald and Golden Eagle Protection Act and Migratory Bird Treaty Act.



Bald eagles are birds of prey that may be found throughout North America, typically around water bodies, including Lake Murray and the lower Saluda River, where they feed and nest. Eagles forage on Lake Murray year round, with peak usage likely occurring during the winter months. Nesting of bald eagles on Lake Murray was first documented in 1996, and since that time, the nesting population has increased significantly. The South Carolina Department of Natural Resources (SCDNR) has recently documented seven active bald eagle nests on Lake Murray as well as one active nest on the lower Saluda River. Active bald eagle nests occurring within Lake Murray and the lower Saluda River are monitored by South Carolina Electric & Gas Company (SCE&G) in accordance with the National Bald Eagle Management Guidelines. These guidelines generally prohibit potential “disturbance” within 660 ft of an active nest during the nesting season (September through May) and 330 ft during the non-nesting season.

**What You Can Do:** Avoid disturbing eagles at nesting and feeding areas and provide habitat for eagles by maintaining mature trees on your property. If you find an injured eagle call the South Carolina Center for Birds of Prey at (843) 971-7474.

## Wood Stork

The wood stork (*Mycteria americana*) is a large wading bird native to coastal areas of South Carolina, Georgia, Florida and is the only stork species native to North America. The wood stork was federally listed as endangered in 1984, with population declines attributed primarily to loss of wetlands suitable for nesting and foraging. Like most other wading birds, wood storks feed primarily on small fish in habitats such as narrow tidal creeks, flooded tidal pools, freshwater marshes and freshwater wetlands. Wood storks typically use tall



cypresses or other trees near wetlands or marshes for colonial nest sites. Nests are usually located in the upper branches of large trees and there are typically several nests in each tree. Currently, nesting of the species in the U.S. is thought to be limited to the coastal plain of South Carolina, Georgia and Florida.



Wood storks were observed feeding at various locations in the upper portions of Lake Murray between the years of 2001 and 2006. A study conducted by SCE&G during 2005 and 2006, in cooperation with the SCDNR, found that a small number of wood storks periodically forage in the upper reaches of Lake Murray, the Saluda River upstream of the reservoir and nearby wetlands during the late-summer and early-fall of some years. Timing of these observations suggest that these wood storks are likely what biologists term “post-dispersal migrants.” This means that they likely nested or were hatched in coastal areas during the summer months, dispersed from the nest, and migrated through the Lake Murray area to utilize temporary food sources (fish trapped in shallow pools) before returning to coastal areas for the winter.

**What You Can Do:** If you happen to see a wood stork soaring above Lake Murray or wading along the shorelines call SCE&G’s Environmental Services at (803) 217-7132. Adult wood storks appear all white with long blackish-grey legs and pink feet. They have an

unfeathered head and neck with a long, thick black bill. In flight, the wings underneath are edged in black.

### **Rocky Shoals Spider Lily**

The rocky shoals spider lily (RSSL) (*Hymenocallis coronaria*), also referred to as Cahaba lily, is a flowering aquatic plant that typically inhabits large streams and rivers in South Carolina, Georgia and Alabama. As the name would suggest, these areas usually consist of rocky shoals and bedrock outcrops, which provide anchor points for the RSSL's roots and bulbs.



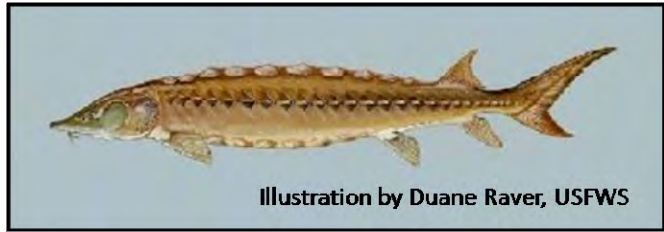
RSSL grows best in constantly flowing, shallow water. The decline of RSSL has historically been attributed to loss of shoal habitat due to construction of impoundments and other channel modifications. Threats to current populations include modification of river flows and fluctuating water levels resulting from dam operations, water pollution and collection for use in gardens. The RSSL is considered a federal species of concern by the United States Fish & Wildlife Service.

A good vantage point from which to observe the RSSL is at the Columbia Riverfront Park. The lilies are in the island complex at the confluence of the Broad and Saluda rivers and just upstream of the confluence in the bypass reach of the Broad River downstream of the Columbia Diversion Dam. Each spring from mid-April to May in this section of the Broad River, one to three stalks will emerge from a RSSL bulb and each will produce a group of six to nine beautiful white flowers. Peak flowering usually occurs from mid-May to mid-June.

**What You Can Do:** Do not pick the lilies or remove the bulbs for transplant, as they will not grow in a typical garden setting. Rocky shoals spider lilies are most beautiful in their natural habitat.

## Shortnose Sturgeon

The shortnose sturgeon (*Acipenser brevirostrum*) is a “living fossil” pre-dating the dinosaurs. Shortnose sturgeons have long life spans, often living up to 60 years. Adults range from three to four feet in



length and have primitive characteristics such as an elongated, slightly flattened body covered with bony plates (scutes). They have a toothless mouth that is positioned under the snout, which allows them to feed on bottom dwelling organisms. Shortnose sturgeon inhabit freshwater rivers, estuaries, and coastal marine waters of the Atlantic Coast. Females reach sexual maturity between 8 to 12 years of age and spawn every 3 to 5 years. Adults spawn in freshwater rivers, preferring to deposit their eggs in rocky shoal habitats well inland from the ocean. Young sturgeon gradually move downstream as they mature, and juvenile and adult fish spend most of their lives in lower sections of their natal river near the ocean, with occasional movements upstream or out to coastal waters. Sturgeon will return to their natal rivers to spawn several times throughout their lives. The National Marine Fisheries Service has recognized the Santee-Cooper River in South Carolina as one of the 19 distinct population segments of shortnose sturgeon. Shortnose sturgeon are distributed throughout the Santee River Basin below existing dams in the Wateree and Congaree tributaries, and in Lakes Marion and Moultrie.

The shortnose sturgeon was originally listed as endangered on March 11, 1967, with population declines attributed to overharvesting, loss of habitat, limited access to spawning grounds and water pollution. State and federal natural resource agencies, conservation organizations, and industry partners are working together in the Santee River Basin to help improve habitat conditions, and future recovery is promising.

**What You Can Do:** Become familiar with the fish species native to your area before going fishing. If a live sturgeon is captured, return it safely to the water.

## Purple Martin

Purple martins (*Progne subis*) are the largest member of the swallow family in North America, measuring 7 1/2 inches long and weighing 1.9 ounces. An adult purple martin has long angular pointed wings, a large bill and forked tail. The male has a glossy blue-back, with duller black wings and tail. Female and juveniles are dusky black above, light beneath, with a smoke-gray throat and breast. Purple martins typically feed in flight, preying on insects and spiders. Typically, purple martins prefer open countryside, but have also been seen in suburban areas where there are suitable nest sites.



The eastern and southern edge of Lunch Island (also known as Bomb Island) on Lake Murray, approximately 5 miles west of the Lake Murray Dam, is one of the largest pre-migratory roosting sites for purple martins in the United States.

The purple martin is a neotropical migrant, meaning that it migrates annually from its normal range in South America, the West Indies and portions of Central America, northward to breeding grounds across North America. This species is unique in that it nests in large colonies and is almost entirely dependant upon man-made structures for nesting. Following the fledging period, purple martins often congregate in large nocturnal roosts of 100,000 or more birds prior to returning southward. Beginning in late June and extending through August or early September these congregations engage in two mass movements daily as they exit the roost in the morning to feed and return in the evening. It has been estimated that at least 700,000 birds utilize the Lunch Island (Bomb Island) roost, prompting SCE&G, South Carolina Department of Natural Resources and the Columbia Chapter of the National Audubon Society to enter into a Memorandum of Agreement to establish a cooperative arrangement for management of the habitat. SCE&G also registered the island with the South Carolina Audubon Society as an Important Bird Area in South Carolina.

**What You Can Do:** The Purple Martin Conservation Association (PMCA) is a non-profit organization dedicated to the conservation of purple martins. PMCA is attempting to locate every active and inactive martin colony site in North America. If you have a purple martin

colony site, or know someone who does, you can register your site at <http://purplemartin.org/>. So far, the organization has registered over 50,000 colony sites.

### **Looking to the Future**

As part of a recent process for the Federal Energy Regulatory Commission (FERC) to renew the operating license for Lake Murray, SCE&G has committed to implementing a number of measures to enhance and protect habitat for rare wildlife and plants, as well as other species that inhabit the area. For example, under a new license, SCE&G will implement a Rare, Threatened and Endangered Species Management Program. This program includes measures to protect bald eagles nesting along Lake Murray and Saluda River shorelines, as well as monitoring and supplemental plantings of rocky shoals spider lilies at the confluence of the Broad and lower Saluda rivers. SCE&G will also implement minimum flow releases to the lower Saluda River that will enhance fish habitat in the lower Saluda River downstream of Lake Murray dam, as well as habitat for striped bass and the federally endangered shortnose sturgeon in the Congaree River. SCE&G has also proposed to implement a new “guide curve” for Lake Murray, which will result in the lake being at the normal maximum operating water surface elevation for a longer period of time during the year and provide for less dramatic winter drawdowns. The new guide curve will result in increased stability of fish habitat along shoreline areas.

The measures that will be implemented by SCE&G under a new FERC license for Saluda also have potential to enhance or protect habitat for a number of species identified in the South Carolina Department of Natural Resources’ Comprehensive Wildlife Conservation Strategy (CWCS). Although these species are not listed as threatened or endangered at the state or federal level, they are identified in the CWCS as being in need of conservation. Species identified in the CWCS as occurring in Richland, Lexington, Saluda and Newberry Counties, which surround Lake Murray, include:



<b>HIGHEST CONSERVATION CONCERN</b>	<b>HIGH CONSERVATION CONCERN</b>	<b>MODERATE CONSERVATION CONCERN</b>
<b>Birds</b>	<b>Birds</b>	<b>Birds</b>
American Coot	Acadian Flycatcher	Chestnut-sided Warbler
American Kestral	Bald Eagle	Common Loon
Black Duck	Black-throated Blue Warbler	Dark-eyed Junco
Black-throated Green Warbler	Blue-winged Teal	Golden-crowned Kinglet
Brown-headed Nuthatch	Forster's Tern	Great Blue Heron
Common Loon	Redhead	Great Egret
Eastern Meadowlark	Spotted Sandpiper	Greater Yellowlegs
Eastern Wood Peewee	<b>Fish</b>	Green Heron
Field Sparrow	Carolina Darter	Horned Grebe
Kentucky Warbler	<b>Mussels</b>	Louisiana Waterthrush
Lesser Scaup	Rayed Pink Fatmucket	Pectoral Sandpiper
Lesser Yellowlegs		Red-breasted Nuthatch
Little Blue Heron		Ringneck
Loggerhead Shrike		Scarlet Tanager
Mallard		Wood Duck
Painted Bunting		<b>Fish</b>
Pied-billed Grebe		Flat Bullhead
Prairie Warbler		Snail Bullhead
Solitary Sandpiper		Rosyface Chub
Swaision's Warbler		V-lip Redhorse
Western Sandpiper		White Catfish
Wood Stork		<b>Mussels</b>
Wood Thrush		Atlantic Spike
<b>Fish</b>		Carolina Lance
American Eel		Carolina Slabshell
Blueback Herring		Eastern Creekshell
<b>Mussels</b>		Variable Spike
Yellow Lampmussel		
Savannah Liliput Creeper		

Additional information regarding the habits and biology of these species can be found in most nature field guides for the region and at the SCDNR website at <http://www.dnr.sc.gov/cwcs/species.html>.